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| 09/851,408 | 05/07/2001 | Bruce C. Rothaar | 060783/P002US/10102073 | 1883 |
| 29053 | 7590 | 10/18/2004 | EXAMINER | |
| DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P. | | | WILLIAMS, LAWRENCE B | |
| 2200 ROSS AVENUE | | | ART UNIT | |
| SUITE 2800 | | | PAPER NUMBER | |
| DALLAS, TX 75201-2784 | | | 2634 | |

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|---------------------------------------|--|
| Office Action Summary | Application No. 09/851,408 | Applicant(s) ROTHAAR ET AL. | |
| | Examiner Lawrence B Williams | Art Unit 2634 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Claim 1 recites the limitation "said gain control circuit" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

3. Claim 6 is objected to because of the following informalities: Examiner suggests applicant delete "of" in line 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2634

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8, 11, 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in view of Eidson et al. (US Patent 6,256,477 B1).

(1) With regard to claim 1, Reed et al. discloses in Fig. 1, an automatic gain control system comprising: means for detecting statistical information about periodicity and duration of RF interference, and means operable, at least in part for directing the gain of the gain control circuit (col. 6, line 47 - col. 7, line 13).

Reed et al. does not however disclose means for tabulating statistical information about periodicity and duration of RF interference.

However, Eidson et al. discloses in Fig. 4, means for tabulating statistical information about RF interference (col. 4, lines 51-67).

One skilled in the art would have clearly recognized means for tabulating statistical information about periodicity and duration of RF interference would be a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Eidson to modify the invention of Reed et al. as a method of avoiding interference (col. 1, lines 64-67; col. 3, lines 1-15).

(2) With regard to claim 2, Eidson et al. also discloses wherein said means for tabulating also tabulates statistical information about the strength of said RF interference (col. 8, lines 33-37).

(3) With regard to claim 3, Eidson et al. also discloses wherein the means for tabulating comprises means for detecting the interference (col. 9, lines 33-40).

(4) With regard to claim 4, Eidson et al. also discloses in Figs. 8A, B wherein the means for detecting comprises an antenna.

(5) With regard to claim 5, Eidson et al. also discloses wherein the means for detecting comprises means for monitoring an RF data stream for the interference (col. 4, lines 51-67).

(6) With regard to claim 6, Reed et al. also discloses wherein said means for directing includes means for selecting at least one action from of a group of actions to reduce effects of said interference, said group of actions consisting of: maintaining gain levels, ignoring said interference; adjusting gain levels in response to gain of said signals; raising gain level prior to onset of said interference; lowering gain level prior to onset of said interference; raising gain levels at cessation of said interference; and lowering gain levels at cessation of said interference (col. 6, line 47- col. 7, line 13).

(7) With regard to claim 8, Eidson et al. also discloses means operable, at least in part, to certain tabulated statistics for changing an RF frequency of transmissions (col. 3, lines 1-15).

(8) With regard to claim 11, Eidson et al. also discloses means operable, at least in part, to certain tabulated statistics for equalizing multipath events of an RF transmission (col. 3, lines 1-15).

(9) With regard to claim 13, claim 13 inherits all limitations of claim 1 above as claim 13 simply discloses the method implemented by the automatic gain control circuit disclosed in the prior art.

(10) With regard to claim 14, claim 14 inherits all limitations of claims 2 and 13 above.

(11) With regard to claim 15, claim 15 inherits all limitations of claims 3 and 13 above.

(12) With regard to claim 16, claim 16 inherits all limitations of claims 4 and 15 above.

Art Unit: 2634

(13) With regard to claim 17, claim 17 inherits all limitations of claims 5 and 15 above.

(14) With regard to claim 18, claim 18 inherits all limitations of claims 6 and 13 above.

(15) With regard to claim 19, Eidson et al. also the method of claim 13 wherein said directing step further includes at least one step from a group of steps consisting of: directing said gain to hold gain levels, ignoring said interference; directing said gain to adjust gain levels in response to gain of said signals; directing said gain to raise gain level prior to onset of said interference; directing said gain to lower gain level prior to onset of said interference; directing said gain to raise gain levels at cessation of said interference, directing said gain to lower gain levels at cessation of said interference; scheduling RF transmissions to avoid said interference; changing an RF frequency of transmissions; changing antenna polarity of RF transmissions, performing waveform subtraction of said interference; equalizing multipath events of an RF transmission; and increasing forward error correction of a transmission (col. 6, line 47- col. 7, line 13).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in combination with Eidson et al. (US Patent 6,256,477 B1) as applied to claim 6 above, and in further view of Sanderford, Jr. et al. (US Patent 5, 668, 828).

As noted above, Reed et al. in combination with Eidson et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for scheduling transmissions to avoid said interference.

However, Sanderford, Jr. et al. teaches means operable at least in part, to certain tabulated statistics for scheduling transmissions to avoid said interference (col. 3, lines 17-40).

One skilled in the art would have clearly recognized means operable at least in part, to certain tabulated statistics for scheduling transmissions to avoid said interference is a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Sanderford et al. to the invention of Reed et al. in combination with Eidson et al. as a method of minimizing data collisions (col. 1, line 65 - col. 2, line 11).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in combination with Eidson et al. (US Patent 6,256,477 B1) as applied to claim 6 above, and in further view of Lempiainen (US Patent 6,510, 312 B1).

As noted above, Reed et al. in combination with Eidson et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for changing antenna polarity of RF transmissions.

However, Lempiainen teaches means operable at least in part, to certain tabulated statistics for changing antenna polarity of RF transmissions (abstract, col. 1, lines 55-63).

One skilled in the art would have clearly recognized means operable at least in part to certain tabulated statistics for changing antenna polarity of RF transmissions is a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Lempiainen to the invention of Reed et al. in combination with Eidson et al. as a method of reducing intercellular interference (col. 1, lines 42-63).

Art Unit: 2634

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in combination with Eidson et al. (US Patent 6,256,477 B1) as applied to claim 6 above, and in further view of Gutleber (US Patent 4,457,007).

As noted above, Reed et al. in combination with Eidson et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for performing waveform subtraction of said interference.

However, Gutleber teaches means operable at least in part, to certain tabulated statistics for performing waveform subtraction of said interference (abstract).

One skilled in the art would have clearly recognized means operable at least in part to certain tabulated statistics for performing waveform subtraction of said interference is a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Gutleber to the invention of Reed et al. in combination with Eidson et al. as a method of reducing interference caused by multipath returns (col. 1, lines 46-57).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in combination with Eidson et al. (US Patent 6,256,477 B1) as applied to claim 6 above, and in further view of Gould et al. (US Patent 5,113,400).

As noted above, Reed et al. in combination with Eidson et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for increasing forward error correction of a transmission.

However, Gould et al. teaches means operable at least in part, to certain tabulated statistics for increasing forward error correction of a transmission (col. 5, lines 39-52).

One skilled in the art would have clearly recognized means operable at least in part to certain tabulated statistics for increasing forward error correction of a transmission is a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Gould et al. to the invention of Reed et al. in combination with Eidson et al. as a more accurate method of rejecting invalid signals in a communications system.

10. Claims 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US Patent 5,425,000) in view of Eidson et al. (US Patent 6,256,477 B1).

(1) With regard to claim 20, Reed et al. discloses in Fig. 3, a circuit for an RF data transmission system, said circuit comprising: a digital delay stage (60A) delaying incoming RF data signals and outputting delayed RF signals, a variable gain stage (60B) receiving said delayed IF signals and outputting gain adjusted IF signals to a demodulator for said system; means for monitoring RF interference (col. 7, lines 13) and means for detecting statistical information about periodicity and duration of RF interference, and means for controlling the variable gain in response to detected statistical information to adjust gain of the delayed IF signals mitigating effects of said RF interference on said signals (col. 6, line 47 - col. 7, line 13).

Reed et al. does not however disclose means for gathering statistical information about RF interference.

However, Eidson et al. discloses in Fig. 4, means for gathering statistical information about RF interference (col. 4, lines 51-67).

One skilled in the art would have clearly recognized means for tabulating statistical information about periodicity and duration of RF interference would be a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Eidson to modify the invention of Reed et al. as a method of avoiding interference (col. 1, lines 64 - 67; col. 3, lines 1-15).

(2) With regard to claim 21, Eidson et al. also discloses wherein said means for gathering also gathers statistical information about the strength of said R.F interference (col. 8, lines 33-37).

(3) With regard to claim 22, Eidson et al. also discloses in Figs. 8A, B, wherein said means for monitoring comprises an antenna.

(4) With regard to claim 23, Eidson et al. also discloses wherein said means for monitoring comprises means for analyzing said R.F data signals for said interference (col. 4, lines 51-67).

(5) With regard to claim 24, Reed et al. also discloses wherein said means for controlling selects at least one action for said variable gain control stage in response to said statistical information from of a group of actions to reduce interference, said group of actions consisting of: directing said gain stage to hold gain levels, ignoring said interference; directing said gain stage to adjust gain levels in response to gain of said directing said gain stage to raise gain level prior to onset of said interference, directing said gain stage to lower gain level prior to onset of said interference; directing said gain stage to raise gain levels at cessation of

Art Unit: 2634

said interference, signals; and directing said gain stage to lower gain levels at cessation of said interference (col. 6, lines 47 – col. 7, lines 13).

(6) With regard to claim 25, Eidson et al. also discloses comprising means for responding to said gathered statistical information by directing said system to select from a group of actions to mitigate effects of said interference, said group of actions consisting of: scheduling transmissions to avoid said interference, changing an RF frequency of transmissions; changing antenna polarity of RF transmissions; performing waveform subtraction of said interference; equalizing multipath events of an RF transmission; and increasing forward error correction of a transmission (col. 3, lines 1-15).

(7) With regard to claim 26, claim 26 inherits all limitations of claim 20, above.

(8) With regard to claim 27, claim 27 inherits all limitations of claims 23 and 26.

(9) With regard to claim 28, claim 28 inherits all limitations of claims 22 and 26.

(10) With regard to claim 29, claim 29 inherits all limitations of claims 24 and 26.

(11) With regard to claim 30, claim 30 inherits all limitations of claims 25 and 29.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

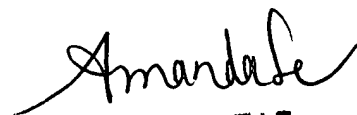
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
October 5, 2004



AMANDA T. LE
PRIMARY EXAMINER